Chanute, Kansas

February 23, 1959

Mr. W.B. Lambeth
National Associated Petroleum Company
502 Rich Building
Tulsa 3, Oklahoma

Dear Gene:

Using the data from the Ackley well No. 9-26, we arrived at a calculated oil recovery of approximately 6580 barrels per acre of which 2620 barrels is the primary recovery and 3960 barrels is from secondary recovery. In calculating the above recovery values, the following factors and assumptions were employed:

Original formation volume factor	1.06
Irreducible water saturation, percent	36.0
Primary oil recovery	None
Present oil saturation, percent	62.2
Oil saturation at abandonment, percent	30.0
Percent porosity	23.9
Net feet of pay sand	18.2
Performance factor	0.50

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl E. Pate

CEP:cm

CHIP-CORE REPORT

FOR

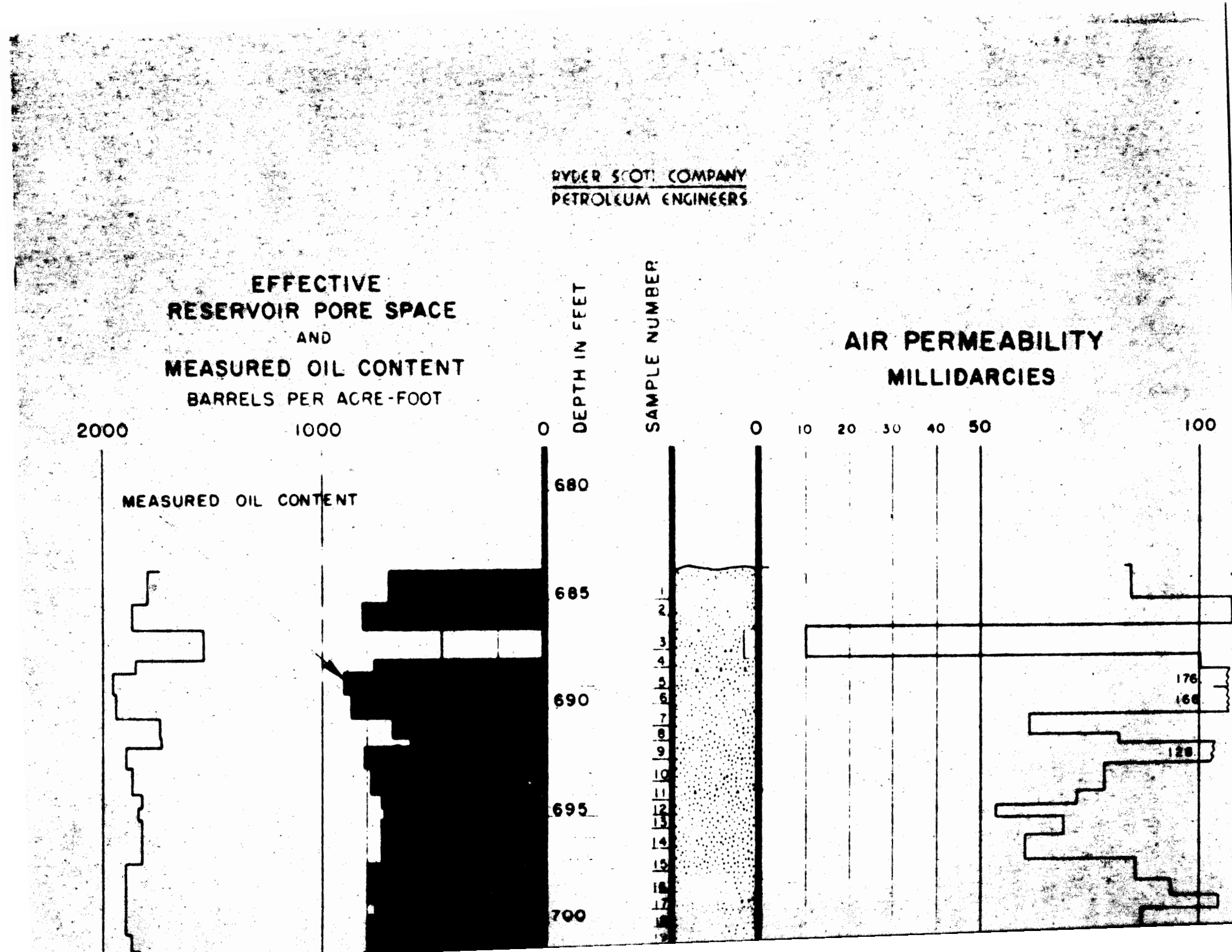
MARACAIBO OIL EXPLORATION CORPORATION

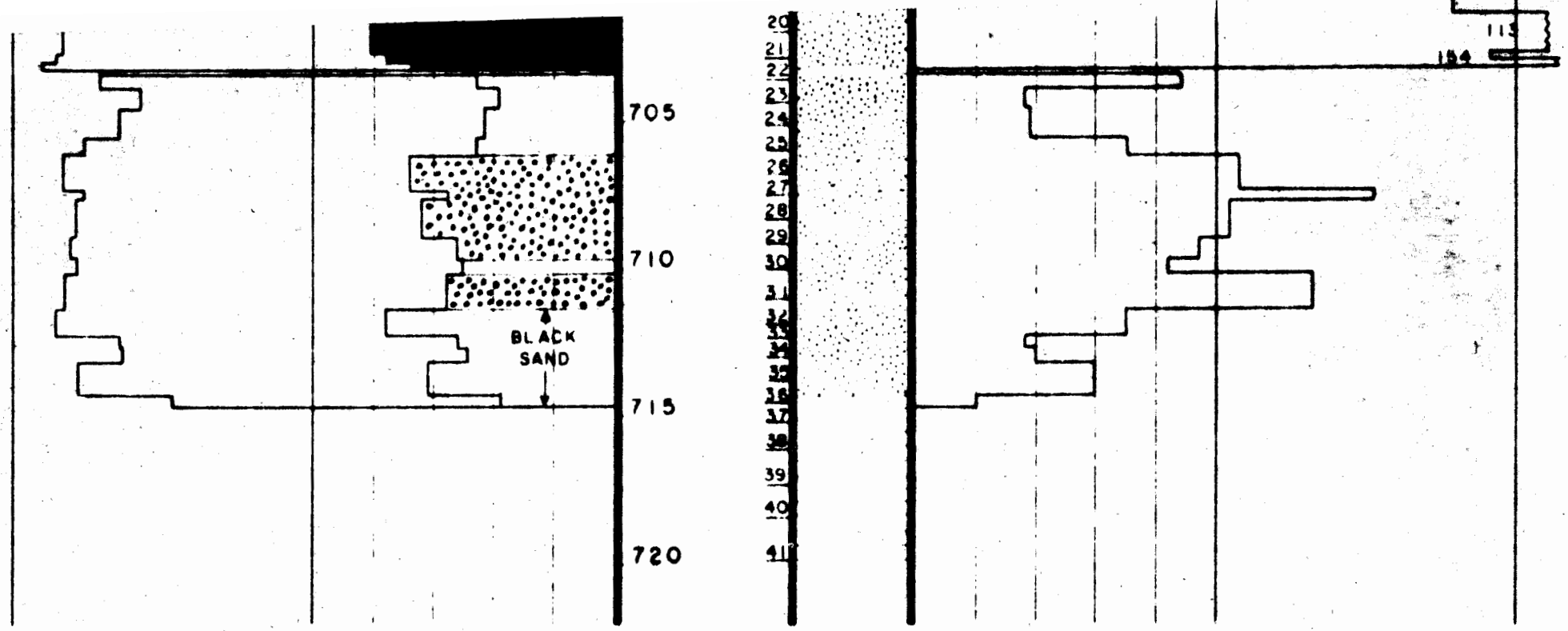
Ackley Well No. 9-W-6
Squirrel Sand
Franklin County, Kansas

February 11, 1959

RYDER SCOTT COMPANY PETROLEUM ENGINEERS

RYDER SCOTT COMPANY
PETROLEUM ENGINEERS





PAY SAND BY PATTERN WATERFLOODING

QUESTIONABLE PAY SAND BY PATTERN WATERFLOODING

NON-PAY SAND BY PATTERN WATERFLOODING

MARACAIBO OIL
For EXPLORATION CORPORATION
Property ACKLEY
Well NO. 9-W-6
SQUIRREL SAND
Date 2/11/59

Maracaibo Oil Exploration Corp.
Ackley Well No. 9-W-6
Squirrel Sand

LOCATION AND DEPTHS

This well is located on the Ackley lease, Franklin County, Kansas.

Top of sand reported at	683.0 Feet
Formation cored to	719.8 Feet
Coring began at	683.7 Feet
Total Squirrel sand formation cored	36.1 Feet
Casing ($6\frac{1}{4}$") set at	683.3 Feet

SUMMARY OF RESERVOIR DATA FOR PERMEABLE SAND CORED AT THIS WELL ONLY

Secondary Recovery

Total permeable sand cored	30.9 Feet
Pay sand net thickness	18.2 Feet
Questionable pay sand net thickness	4.7 Feet
Non-pay sand net thickness	8.0 Feet

Effective Reservoir Pore Space	Barrels Per Acre	Average Effective Porosity
Pay sand	33,800	23.9%
Questionable pay sand	8,500	23.3%
Non-pay sand	13,400	21.6%

Total Oil Content	Barrels Per Acre	Average Saturation
Pay sand	14,000	41.4%
Questionable pay sand	2,800	32.9%
Non-pay sand	4,100	30.6%

Maximum permeability	176. Md.
Minimum pay permeability	53. Md.
Minimum questionable pay permeability	47. Md.
Total millidarcy-feet	2246. Md. x Ft.

Maracaibo Oil Exploration Corporation
Ackley Well No. 9-W-6
Squirrel Sand

CORE REPORT

The sand at this well was chip-cored by a representative of Maracaibo Oil Exploration Corporation. The core was received at our laboratory for analysis on February 9, 1959. The results of the analysis are tabulated on the Chip-Core Data sheet of this report.

The waterflood pay layers, which are interpreted from the core tests and correlation of the Squirrel sand formation at this well, are indicated by the key on the core chart. There is 18.2 feet of pay sand by pattern waterflooding at this well between 683.7 feet and 703.3 feet. The sand zone from 703.4 feet to 714.7 feet contains 4.7 feet of sand classified as questionable pay as indicated by the key on the chart.

It is estimated that 5,500 barrels of oil per acre, which is an average of 300 barrels per acre-foot, will be produced at this well from the 18.2 feet of pay sand above 703.3 feet, provided a proper spacing is used so that a settled down water intake rate into the pay sand layers will average about one barrel per day per acre-foot. The recovery estimate is based on the waterflood performance of the Squirrel sand in this area. If the 4.7 feet of sand, which is classified as questionable pay below 703.4 feet, waterfloods then it should yield an additional 700 barrels of oil per acre or an an average of 150 barrels per acre-foot.

The gravity of the produced crude from this well measured 28.6° API at 60/60° F and its viscosity measured 27.8 centipoise at 76° F.

All the sand above 703.3 feet should be shot at this well. Core tests at surrounding wells will aid in deciding whether the sand between 703.4 and 711.4 feet should be shot. The black sand is non-pay by pattern waterflooding and therefore requires no shot.

RYDER SCOTT COMPANY
PETROLEUM ENGINEERS

Donald T. May

Donald T. May

Maracaibo Oil Exploration Corp.
Ackley Well No. 9-W-6
Squirrel Sand

CHIP-CORE DATA

Sample No.	Depth of Sample Feet	Effective Porosity %	Air Permeability Md.	Saturations Oil %	Saturations Water %	Effective Reservoir Pore Space B/A	Total Oil Content B/A
1	685.1	23.1	84.	39.	37	2,690	1,050
2	685.8	24.1	107.	44.	36	2,240	980
3	687.4	19.9	10.	30.	37	2,160	640
4	688.2	23.9	99.	41.	34	1,110	460
5	689.1	25.1	176.	46.	31	1,950	900
6	689.9	25.0	166.	45.	36	2,130	960
7	690.9	22.4	61.	39.	47	1,570	610
8	691.6	22.3	81.	34.	41	690	230
9	692.4	24.4	128.	43.	33	1,890	810
10	693.5	24.0	78.	42.	38	2,230	940
11	694.3	23.4	72.	40.	40	1,090	440
12	695.0	23.7	53.	39.	37	1,100	430
13	695.6	23.4	69.	40.	36	1,460	580
14	696.5	23.4	60.	40.	39	2,180	870
15	697.6	24.3	85.	42.	38	2,080	870
16	698.6	24.3	93.	42.	37	1,320	550
17	699.4	24.4	104.	40.	33	1,130	450
18	700.3	24.3	86.	42.	38	1,890	790
19	701.2	24.1	89.	42.	37	1,500	630
20	702.0	23.6	113.	44.	34	2,380	1,050
21	702.9	23.9	95.	41.	36	560	230
22-1	703.3	24.5	154.	35.	34	570	200
22-2	703.6	22.1	44.	27	47	860	230
23	704.4	20.3	18.	24.	56	1,100	260
24	705.2	21.2	19.	26.	52	1,640	430

Maracaibo Oil Exploration Corp.
Ackley Well No. 9-W-6
Squirrel Sand

CHIP-CORE DATA

Sample No.	Depth of Sample Feet	Effective Porosity %	Air Permeability Md.	Saturations Oil %	Saturations Water %	Effective Reservoir Pore Space B/A	Total Oil Content B/A
25	706.0	22.7	35.	26.	49	1,060	280
26	706.8	23.6	54.	37.	37	2,200	810
27	707.5	22.7	76.	31.	45	530	160
28	708.4	22.9	52.	36.	44	2,310	830
29	709.2	23.2	47.	29.	40	1,260	370
30	710.0	23.0	42.	28.	44	890	250
31	711.0	23.4	66.	30.	43	2,180	650
32	711.9	23.8	35.	41.	31	1,670	680
33	712.4	21.1	18.	32.	44	660	210
34a	713.0	21.	20.	30.	--	820	250
35a	713.8	23.	30.	35.	--	1,960	690
36a	714.5	19.	10.	25.	--	590	150
37	715.2						
38	716.1						
39	717.3						
40	718.4						
41	719.8						

Sample numbers followed by a small letter are calculated and correlated only.